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27820 7590 03/11/2010 WITHROW & TERRANOVA, P.L.L.C. 100 REGENCY FOREST DRIVE SUITE 160 CARY, NC 27518				
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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* GREGORY D. MAY, ROBERT W. KEYS, DAVID W. PARK,  
and DOUGLAS ECCLESTON

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Appeal 2009-003812  
Application 10/027,249  
Technology Center 2600

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Decided: March 11, 2010

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Before KENNETH W. HAIRSTON, JOSEPH F. RUGGIERO, and  
ROBERT E. NAPPI, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Final Rejection of claims 1, 3-5, 7, 10-12, 14-18, 24, and 25, which are all of the pending

claims. Claims 2, 6, 8, 9, 13, and 19-23 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief (filed April 9, 2008) and the Answer (mailed June 6, 2008) for the respective details. Only those arguments actually made by Appellants have been considered in this decision. Arguments which Appellants could have made but chose not to make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

### *Appellants' Invention*

Appellants' invention relates to the measurement of optical signal strength in an optical system in which optical signals of more than one wavelength pass through a wavelength select switch to a power meter which measures the power in the optical signals. The measured optical power signal is used to control an optical amplifier by causing the optical amplifier to either increase or decrease the optical strength. (*See generally* Spec. 3:20-4:7 and 5:22-6:16).

Claim 1 is illustrative of the invention and reads as follows:

1. A method of measuring optical signal power in an optical system, comprising:  
receiving optical signals at a wavelength select switch;  
passing a subset of the optical signals comprised of more than one

individual wavelength through the wavelength select switch at substantially the same time to a power meter;

measuring power in the subset of optical signals using the power meter;

displaying an indication of the optical signal power in the optical signals on a monitor to a system administrator; and

controlling an optical amplifier in accordance with the power of the optical signals to regulate optical signal power of the optical signals.

*The Examiner's Rejections*

The Examiner's Answer cites the following prior art references:

Solomon	US 4,903,339	Feb. 20, 1990
Felger	US 5,521,701	May 28, 1996
Alexander	US 5,986,782	Nov. 16, 1999
Prohaska	US 2002/0176658 A1	Nov. 28, 2002 (eff. filed Oct. 13, 2000)
Sugaya	US 6,873,795 B1	Mar. 29, 2005 (filed Nov. 16, 1999)

Claims 1, 3-5, 11, 12, 14-17, 24, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sugaya in view of Prohaska and Felger.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sugaya in view of Prohaska, Felger, and Solomon.

Claims 7 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sugaya in view of Prohaska, Felger, and Alexander.

## ISSUES

The pivotal issues before us are whether the Examiner erred in determining:

- a) Sugaya discloses the controlling of an optical amplifier in accordance with measured optical signal power to regulate the optical signal power of the output optical signals, and
- b) if so, the obviousness to the ordinarily skilled artisan of combining the wavelength select switch and optical power display teachings of Prohaska and Felger with Sugaya.

## FINDINGS OF FACT

The record supports the following relevant findings of fact (FF) by a preponderance of the evidence:

1. Sugaya discloses (Figs. 9 and 11, col. 12, ll. 45-52) an optical power measuring and control system including a wavelength select unit (13 and 30) for passing received optical signals to a power meter PD 31.
2. Sugaya further discloses (col. 12, ll. 52-56) a total-power uniformizing control 32 for outputting the difference between the detected power value and the set value of the power.
3. Further disclosed by Sugaya (col. 12, ll. 56-64) is a control correction circuit 33 which outputs the difference between the detected power and the set value of the power as a feedback signal to the excitation light source 29.

## PRINCIPLES OF LAW

During examination of a patent application, a claim is given its broadest reasonable construction “in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). “[T]he words of a claim ‘are generally given their ordinary and customary meaning.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005)

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (stating that 35 U.S.C. § 103 leads to three basic factual inquiries: the scope and content of the prior art, the differences between the prior art and the claims at issue, and the level of ordinary skill in the art). Furthermore,

‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

*KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

## ANALYSIS

- I. *The obviousness rejection of claims 1, 3-5, 11, 12, 14-17, 24, and 25 based on the combination of Sugaya, Prohaska, and Felger.*

Appellants' arguments with respect to independent claims 1 and 12 focus on the alleged deficiency of any of the applied prior art in disclosing the claimed controlling of an optical amplifier in accordance with optical signal power output to regulate the optical signal power of received optical signals. In Appellants' view (App. Br. 9-10), the Sugaya reference, relied upon by the Examiner as providing the claimed optical amplifier controlling feature, discloses only the control of the excitation light source 29 which controls the amount of light input to the optical amplifier 28. According to Appellants, Sugaya, therefore, does not control the optical amplifier itself but, rather, only the amount of light input to and then output from the optical amplifier.

We do not agree with Appellants. We find no error in the Examiner's ultimate determination (Ans. 4-5) that the output signal power of Sugaya's optical amplifier 28 is controlled by variably controlling the amount of excitation light from source 29 that is input to the optical amplifier 28. (FF 2 and 3). Further, notwithstanding the above, we also agree with the Examiner's finding (Ans. 9-10), and there are no arguments to the contrary forthcoming from Appellants, that an ordinarily skilled artisan would have recognized and appreciated that it is the combined elements of the excitation light source 29 and the optical amplifier fiber 28 which constitute the optical amplifier structure of Sugaya.

Lastly, we find, contrary to Appellants' arguments (App. Br. 10-11), that the Examiner (Ans. 4, 5, and 11-13), in accordance with the previously discussed *KSR* standard, has set forth an articulated line of reasoning with a rational underpinning to support the conclusion that the respective

wavelength select switch and optical power display teachings of Prohaska and Felger would have served as an obvious enhancement to the optical power controlling system of Sugaya.

For the above reasons, the Examiner's 35 U.S.C. § 103(a) rejection of independent claims 1 and 12, as well as dependent claims 3-5, 11, 14-17, 24, and 25 not separately argued by Appellants, is sustained.

*II. The obviousness rejections of claims 7, 10, and 18.*

The Examiner's obviousness rejections of dependent claims 7, 10, and 18 are sustained as well. We find no error in the Examiner's application (Ans. 6-8) of the power threshold and power meter teachings, respectively, of Solomon and Alexander to the combined system of Sugaya, Prohaska, and Felger. Appellants (App. Br. 12) have made no separate arguments for the patentability of claims 7, 10, and 18 but, instead, have relied on the arguments asserted against independent claims 1 and 12, which arguments we found to be unpersuasive as discussed *supra*.



### CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude that the Examiner did not err in rejecting claims for obviousness under 35 U.S.C. § 103(a).

### DECISION

The Examiner's decision rejecting claims 1, 3-5, 7, 10-12, 14-18, 24, and 25 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

### AFFIRMED

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WITHROW & TERRANOVA, P.L.L.C.  
100 REGENCY FOREST DRIVE  
SUITE 160  
CARY, NC 27518